REMARKS

Claims 1-72 are pending after this amendment. Claims 1, 15, 29, 43, 57, 61, 65, and 69 have been amended.

Applicant has amended claims 1, 15, 29, 43, 57, 61, 65, and 69 in order to more particularly define the invention. The amendments were not necessitated by the claim rejections. Applicant makes no admission as to the patentability or unpatentability of the originally filed claims.

Support for the amended language exists in the original specification in Para [0073], which explains that if a tile "is neither completely inside or completely outside the specified area (a layer) ... a new tile is created ... to represent the overlapping region." After all tiles are created, for each tile, the set of layers that overlap within the tile is homogenous throughout the entirety of the tile.

The amendments and remarks presented herein are in response to the Office Action dated May 13, 2004.

The Examiner rejected claims 1-72 under 35 U.S.C. §103(a) as being unpatentable over O'Connor et al. in view of Schiller et al. and further in view of Iwami et al. This rejection is respectfully traversed.

Regarding claim 1, O'Connor et al. does not disclose defining a tile according to an area of overlap among a set of layers, as claimed herein. In fact, as correctly stated by the Examiner in the Office Action, O'Connor et al. fails to disclose any technique of subdividing the image as a tile. However, the Examiner stated that such

a feature is shown in the teaching of Schiller et al. The Examiner further cited Iwami et al. as teaching this feature.

Applicants respectfully disagree. Neither Schiller et al. nor Iwami et al. teaches the feature of "defining a tile, the tile comprising a subset of the image pixels delimited according to an area of overlap among a set of at least two layers ... wherein, for each defined tile, the set of layers that overlap within the tile is homogenous throughout the entirety of the tile," as recited in amended claim 1.

Schiller divides a page of output into tiles and each tile can be "a specified size (e.g., one-quarter inch square) or a specified fraction of the page's height and width (e.g., 10%)" (6:38-42). In other words, the tiles in Schiller for a particular page of output are all of uniform size. By contrast, the tiles in the claimed invention are often of varying sizes (see Fig. 4). Their sizes vary because they are delimited according to where a set of layers overlap, and the size and position of the layers may change freely. Schiller, on the other hand, delimits a page's tiles using fixed values (e.g., one-quarter inch). Therefore, a number of "path intersections" may occur anywhere within the area of one Schiller tile (6:46-47). In the claimed invention, however, the layer edges and intersections define the tiles' boundaries and, therefore, they will never lay within a tile's interior. By defining tiles according to areas of overlap, the claimed invention provides greater efficiency, since all pixels in a tile can be processed similarly. This is particularly useful when translucent layers are being processed, since combining multiple translucent layers can be a complex, time-intensive operation that is made more efficient when a number of pixels can be processed alike based on a given set of overlapping layers. By failing to disclose defining tiles in the

manner claimed herein, Schiller is unable to provide the distinct advantages of the claimed invention.

Iwami et al. also fails to define tiles in the manner claimed herein. Subregion b2 in Fig. 8B represents a tile resulting from the application of Iwami's tiling process to the four windows in Fig. 8A to make window W_2 appear deleted from the screen (9:8-40). Subregion b_2, however, spans areas of the screen having a different number of overlapping layers. Specifically, the lower left portion of subregion b_2 has three overlapping layers: W_2, W_3, and W_4; but the remaining portion of b_2 has just two overlapping layers: W_2 and W_3. Another example of this deficiency in tiling is seen in Fig. 10B. In Fig. 10B, subregion w_{11} spans areas of the screen having varying numbers of overlapping layers. Specifically, the left portion of subregion w_{11} has two overlapping layers: W_1 and W_2; but the remaining portion has three overlapping layers: W_1, W_2, and W_3. Thus, the disclosure of Iwami fails to teach tiling such that, for each tile, the set of layers that overlap within the tile is homogenous throughout the entirety of the tile. Further, Iwami has no motivation for defining tiles in this manner because the windows in Iwami are opaque, not translucent like they may be in the claimed invention. If window W_3 in Fig. 8B were translucent, the deficiency of Iwami would be apparent: the pixels in b_2 could not all be processed alike. Some pixels would be processed to show W_3, but others would be processed to show a combination of W_3 and W_4. Processing sets of pixels within one tile differently defeats the efficiency gains realized by being able to process all pixels within a tile similarly. By contrast, the claimed invention allows the processing of translucent layers

to be performed more efficiently by ensuring no tile spans regions with varying numbers of overlapping layers.

Accordingly, Applicants submit that none of the cited references, taken alone or in combination, anticipates or makes obvious the invention of amended claim 1.

Claims 15, 29, 43, 57, 61, 65, and 69 recite limitations analogous to that discussed above in connection with claim 1. Claims 2-14, 16-28, 30-42, 44-56, 58-60, 62-64, 66-68, and 70-72 are variously dependent upon claims 1, 15, 29, 43, 57, 61, 65, and 69 and incorporate all of the limitations of claims 1, 15, 29, 43, 57, 61, 65, and 69. Accordingly, Applicants respectfully submit that claims 1-72 are allowable over the prior art.

On the basis of the above amendments, consideration of this application and the early allowance of all claims herein are requested.

Should the Examiner wish to discuss the above amendments and remarks, or if the Examiner believes that for any reason direct contact with Applicants' representative would help to advance the prosecution of this case to finality, the Examiner is invited to telephone the undersigned at the number given below.

Respectfully submitted,
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